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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/630,559	07/30/2003	Livio Ricciulli	DIDL001C3	8636
42624	7590	07/25/2006	EXAMINER	
DAVIDSON BERQUIST JACKSON & GOWDEY LLP 4300 WILSON BLVD., 7TH FLOOR ARLINGTON, VA 22203			NGUYEN, MINH CHAU	
			ART UNIT	PAPER NUMBER
			2145	

DATE MAILED: 07/25/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/630,559

Applicant(s)

RICCIULLI, LIVIO

Examiner

MINH-CHAU N. NGUYEN

Art Unit

2145

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 30 July 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 33-54 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 33-54 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>09/29/03, 7/30/03</u> | 6) <input type="checkbox"/> Other: _____  |



### DETAILED ACTION

1. The numbering of claims is not in accordance with 37 CFR 1.126 which requires the original numbering of the claims to be preserved throughout the prosecution. When claims are canceled, the remaining claims must not be renumbered. When new claims are presented, they must be numbered consecutively beginning with the number next following the highest numbered claims previously presented (whether entered or not).
2. Misnumbered claims 1-22 have been renumbered 33-54.

### *Double Patenting*

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claim 1 is rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 1 of U.S. Patent No. 6,275,470 B1.

Although the conflicting claims are not identical, they are not patentably distinct from each other because:

- In the application, claim 1 is claimed:

identifying a first cost of transmission along a default route from the first intermediate server to a content server, the default route determined using one or more existing routing mechanisms;

identifying a second cost of transmission along an alternate route from the first intermediate server to the content server, the alternate route including a second intermediate server not in the default route, wherein the second intermediate server is part of an overlay network;

determining an optimal route based at least in part on the first cost and the second cost, wherein the first cost and the second cost are determined using network communication performance metrics; and

- In the patent, claim 1 is claimed:

a) in response to a request to transmit the message, measuring a cost from the source to the destination along a default path, the default path being derived by means of one or more existing routing mechanisms of the communications network;

b) measuring an alternative cost of transmitting the message from the source to the destination along at least one alternative path, the alternative path passing through one or more intermediate nodes not on the default path, wherein the intermediate nodes define a virtual topology on top of the computer-based communications network;

c) determining the optimized path by comparing the default cost and the alternative cost.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 33-37,41-54 are rejected under 35 U.S.C. 102(e) as being anticipated by Zaumen et al. (Zaumen) (US 6,658,479 B1).

4. Claim 33, a method for selecting a route in a network, the method comprising:

receiving data associated with a request for content at a first intermediate server (node B), the data transmitted from an end user (i.e. node A) to the first intermediate server (figure 1 and Col. 3, L. 33-Col. 4, L. 20; and Col. 5, L. 14-Col. 6, L. 35);

identifying a first cost of transmission along a default route from the first intermediate server to a content server (i.e. destination node G is a content server) (i.e. the total cost of routing data through a given links along the ABDFG route), the default route determined using one or more existing routing mechanisms (i.e. there is many routes that can be taken to arrive at destination node such as ABDFG, ABEFG, AEG, AEFG, etc.) (figure 1; and Col. 3, L. 65- Col. 9, L. 30);

identifying a second cost of transmission along an alternate route from the first intermediate server to the content server (i.e. the total cost of routing data through a given links along the AEG route), the alternate route including a second intermediate server not in the default route (i.e. node E), wherein the second intermediate server is part of an overlay network (figure 1; and Col. 3, L. 65- Col. 9, L. 30);

determining an optimal route based at least in part on the first cost and the second cost, wherein the first cost and the second cost are determined using network communication performance metrics (i.e. the system determines an optimal route is ABDFG ("ABDFG is the optimal route from A to G")) (figure 1; and Col. 3, L. 65- Col. 9, L. 30); and

transmitting data associated with the request for content (i.e. data) along the optimal route (i.e. transmitting the request from A to G along the optimal route is ABDFG route) (Col. 3, L. 65- Col. 9, L. 30).

5. Claim 34, the network communication performance metrics are obtained periodically (i.e. time scale) (Col. 1, L. 32-41).
6. Claim 35, the cost of transmission is determined using one or more network communication performance metrics selected from the following group: delay, bandwidth, jitter, loss, security ("the cost metric that is used to measure traffic conditions is marginal delay") (Col. 4, L. 9-13).
7. Claim 36, the alternate route comprises one or more overlay nodes (i.e. the alternate route is AEG which comprises 3 nodes) (Col. 3, L. 33-Col. 4, L. 20).
8. Claim 37, the one or more overlay nodes define a virtual topology (Col. 6, L. 10-26).
9. Claim 41, determining the optimal route comprises determining an optimal next hop (i.e. the optimal next hop is node B which has the lowest link cost) for transmitting data (Col. 3, L. 65- Col. 9, L. 30).
10. Claim 47, an overlay node in a network, comprising:  
  
an interface configured to receive data associated with a request for content at a first intermediate server (node B), the data transmitted from an end

user (i.e. node A) to the first intermediate server (figure 1 and Col. 3, L. 33-Col. 4, L. 20; and Col. 5, L. 14-Col. 6, L. 35);

a processor coupled to the interface, the processor configured to identify a first cost of transmission along a default route from the first intermediate server to a content server (i.e. destination node G is a content server) (i.e. the total cost of routing data through a given links along the ABDFG route) (i.e. there is many routes that can be taken to arrive at destination node such as ABDFG, ABEFG, AEG, AEFG, etc.) (figure 1; and Col. 3, L. 65-Col. 9, L. 30) and a second cost of transmission along an alternate route from the first intermediate server to the content server (i.e. the total cost of routing data through a given links along the AEG route), the default route determined using one or more existing routing mechanisms (i.e. there is many routes that can be taken to arrive at destination node such as ABDFG, ABEFG, AEG, AEFG, etc.) (figure 1; and Col. 3, L. 65-Col. 9, L. 30) and the alternate route including a second intermediate server not in the default route (i.e. node E), wherein the second intermediate server is part of an overlay network (figure 1; and Col. 3, L. 65- Col. 9, L. 30), wherein the processor is further configured to determine an preferred route based at least in part on the first cost and the second cost, wherein the first cost and the second cost are determined using network communication performance metrics (i.e. the system determines an optimal route is ABDFG ("ABDFG is the optimal route from A to G")) (figure 1; and Col. 3, L. 65- Col. 9, L. 30).



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11. Claim 48, the processor is further configured to transmit data associated with the request for content along the preferred route (i.e. transmitting the request from A to G along the optimal route is ABDFG route) (Col. 3, L. 65- Col. 9, L. 30).

12. Claims 42-46 are corresponding apparatus claims of method claims 33-37.

Therefore, they are rejected under the same rationale.

13. Claims 49-52 are corresponding apparatus claims of method claims 34-37.

Therefore, they are rejected under the same rationale.

14. Claim 53 is corresponding claim of claim 33. Therefore, it is rejected under the same rationale.

15. Claim 54 is corresponding system claim of method claim 33. Therefore, it is rejected under the same rationale.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

16. Claims 38-40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zaumen as applied to claim 1 above, and further in view of Yemini et al. (Yemini) (US 2002/0163889 A1).
17. Claim 38, Zaumen teaches the data is transmitted along the optimal route (i.e. transmitting the request from A to G along the optimal route is ABDFG route) (Col. 3, L. 65- Col. 9, L. 30).

Zaumen fails to teach the data is transmitted along the optimal route using encapsulation. However, Yemini, in the same field of endeavor having closely related objectivity, teaches the data is transmitted along the optimal route using encapsulation (paragraph 68,83,85,102).

Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have incorporated Yemini's teachings of the data is transmitted along the optimal route using encapsulation, in the teachings of Zaumen in load-balanced anycasting and routing in a network, for the purpose of using multi-layer hierarchical encapsulation of addressing ... accomplish low costs and high performance (in Yemini, paragraph 85).

18. Claim 39, Zaumen and Yemini disclose the invention substantially as claimed. Zaumen teaches the data is transmitted along the optimal route by changing a destination associated with the data (i.e. the optimal route from the node A to node G is determined by changing the intermediate destinations (node B instead

of C or D instead of E) associated with the traffic condition data) (Col. 3, L. 65-Col. 9, L. 30).

19. Claim 40, Zaumen and Yemini disclose the invention substantially as claimed.

Zaumen teaches a response corresponding to the request for content is also transmitted along the optimal route (figure 3; and Col. 8, L. 25-Col. 9, L. 7).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MINH-CHAU N. NGUYEN whose telephone number is (571)272-4242. The examiner can normally be reached on Monday-Friday from 8:00am - 4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, JASON D. CARDONE can be reached on (571) 272-6159. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Examiner: Minh-Chau Nguyen  
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**JASON CARDONE**  
**SUPERVISORY PATENT EXAMINER**